

OCT 19 1987

UNITED STATES GOVERNMENT

# memorandum

DATE: October 15, 1987

REPLY TO: Acting  
ATTN OF: ARD-Refuges and Wildlife, FWS, Atlanta, GA (RF-1)

SUBJECT: Canada Goose Management Review

TO: See List Below

We are attaching a copy of the Review Team's report on their evaluation of Canada goose management on Region 4 refuges of the Mississippi Flyway. We appreciate the part that each of you and your staffs played in conducting this review.

The report makes a large number of recommendations that relate to various refuges in Region 4. These recommendations are being entered into our computerized tracking system so that progress in implementation can be tracked until complete. You are responsible for implementing the recommendations that pertain to your refuge(s) on the schedule which is shown. If you have questions on the recommendations or schedule shown, you should contact John Oberheu or your supervisor, as appropriate.



Attachment

Addressees:

Holla Bend NWR  
White River NWR  
Wapanocca NWR  
Big Lake NWR  
Cross Creeks NWR  
Hatchie NWR  
Reelfoot NWR  
Tennessee NWR  
Yazoo NWR  
Wheeler NWR  
Lacassine NWR  
Sabine NWR  
ARW, Region 3  
Migratory Bird Management, WO  
Mississippi Flyway Representative,  
Columbia, MO  
Ray Aycock, Jackson, MS  
Don Orr, Memphis, TN  
Ron Freeman, Auburn, AL  
Frank Bowers  
Don Adams  
Sam Drake

Program Evaluation Report  
Canada Goose Management on Region 4 Refuges  
of the Mississippi Flyway

INTRODUCTION

A review of Canada goose management on Region 4 refuges of the Mississippi Flyway was undertaken beginning in October 1986. The evaluation included 15 national wildlife refuges in the States of Alabama, Arkansas, Kentucky, Louisiana, Mississippi, and Tennessee. State waterfowl biologists were contacted in each State, and both refuge and State management programs were reviewed with them. When possible, State personnel met with the review team for onsite visits of selected State and national wildlife refuges.

The evaluation team included the team leader, John Oberheu, and members--Don Orr, Ray Aycock, Randy Cook, Dan Searcy, and Frank Bowers. Specific objectives of the evaluation were to: (1) evaluate current management practices on the designated refuges, (2) determine needed changes in management, and (3) prepare an action plan implementing needed changes. Methods used in the evaluation are summarized in Attachment 1.

Management programs on the refuges which were evaluated are summarized in Table 1. Additional management concerns and considerations are discussed on the pages that follow.

Mississippi Flyway Canada geese that use Region 4 refuges are essentially all from three populations, the Eastern Prairie Population (EPP), the Mississippi Valley Population (MVP), and the Tennessee Valley Population (TVP). Though there is some overlapping of these populations, their distribution remains distinct enough that they can be managed separately at a Flyway level. The general wintering distribution of these populations is shown in Figure 1.

NATIONAL WILDLIFE REFUGE MANAGEMENT PROGRAMS

Holla Bend National Wildlife Refuge

Present use days for Canada geese are about at 80 percent of the established objective of 600,000. All of the Canada geese are considered to be associated with the EPP of Canada geese.

The State maintains a fenced enclosure on the refuge for holding resident Canada geese. The resident goose population has not caused any conflict with refuge operations, and has actually helped our goose banding success. There is, however, some concern about disease potentials of the introduced geese.

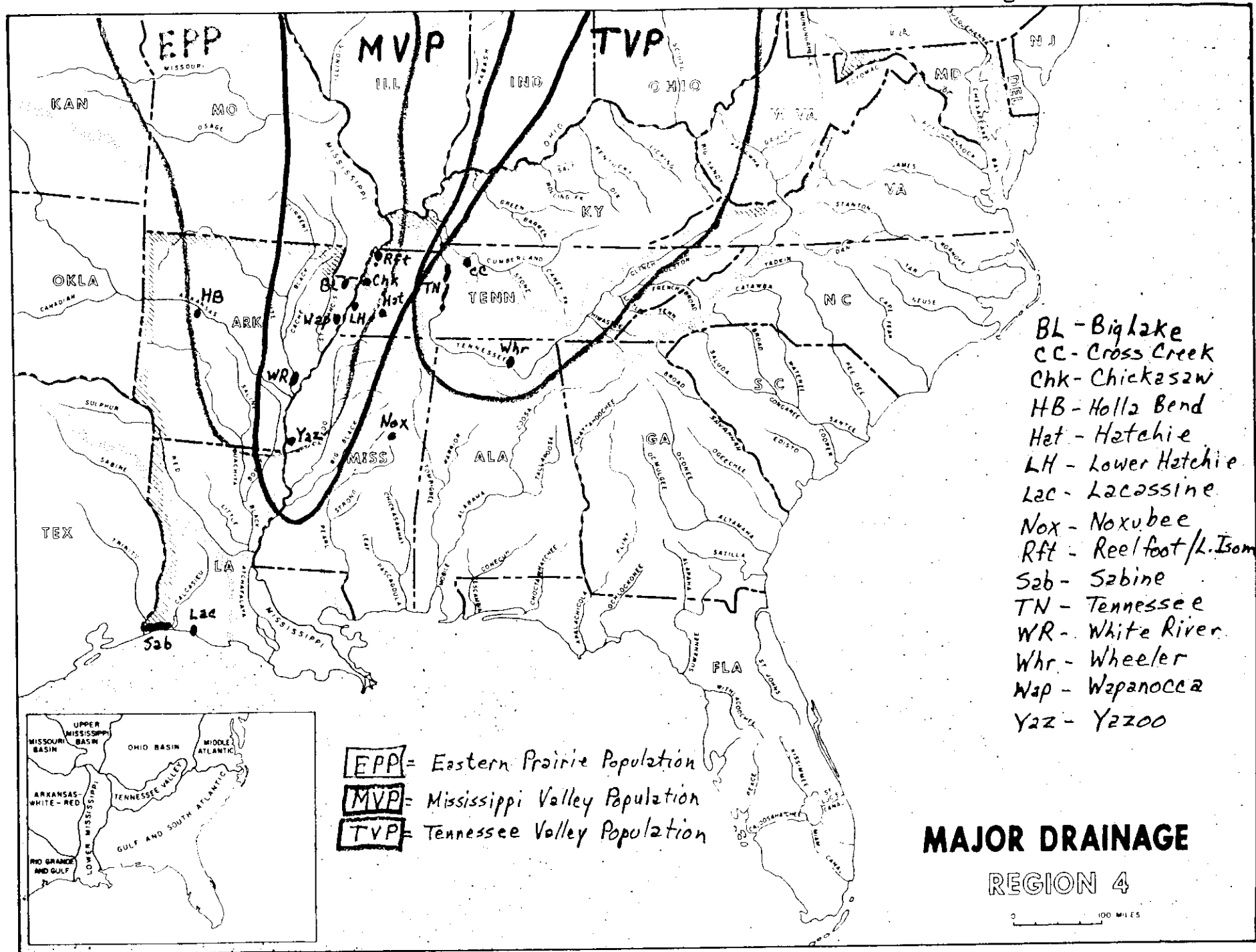
Table 1

## Canada Goose Management Data for Region 4 Refuges of the Mississippi Flyway

REFUGE	Total Goose Population Objective (Use Days)	Canada Goose Population Objective (Use Days)	Canada Goose 5-Year Average (Use Days)	Canada Goose 5-Year Average (Peaks)	Pounds of Grain Produced (Average)	Acres of Green Browse Produced (Average)	Acres of Moist Soil Management (Present)	Average Number Banded (5 Years)	Number of Collar Observations** (1986-87)
Holla Bend	750,000	600,000	480,000	11,000	300,000	300	73	120	75
White River	500,000	500,000	367,000	9,300	175,000	200	420	219	89
Wapanocca	1,200,000	1,200,000	843,000	25,300	1,618,000	435	36	69	1,296
Rig Lake	150,000	150,000	94,000	2,500	243,000	45	170	11	10
Cross Creeks	2,500,000	2,000,000	1,878,000	30,800	1,164,000	380	594	489	873
Hatchie	55,000	55,000	49,300	800	426,000	23	202	18	15
Lower Hatchie	200,000	200,000	15,000	900	8,000	211	25	0	0
Reelfoot	2,500,000	2,500,000	3,815,000	74,200	1,176,000	350	220+	121	651
Lake Isom	1,000,000	1,000,000	450,000	40,000	482,160	40	30+	-	-
Tennessee	5,000,000	5,000,000	3,556,000	62,700	83,500	806	3,500	644	872
Yazoo	650,000	650,000	172,500	3,500	1,008,000	650	142	18	21
Noxubee	250,000	146,000	91,000*	350*	50,000	100	600	-	-
Wheeler	4,000,000	4,000,000	2,473,000	33,300	2,506,000	1,666	900	104	707
Lacassine	11,000,000	1,350,000	50,000	800	-	28	600	-	-
Sabine	3,500,000	0	3,000	50	-	-	-	-	-

\*Figures are for resident geese. Migrant Canada goose numbers are negligible.

\*\*Additional observations were made by special, hired observers.



Refuge will be trying irrigation during the 1988 season, if needed, to increase corn yields. If this proves to be a reliable way to substantially increase corn production, we may be able to decrease total acres of corn or increase the amount of food made available to geese and ducks.

Geese are sometimes disturbed from the oxbow lake area due to boats running through the privately owned portion of the lake.

The refuge suffers from a severe Johnson grass problem in all crops. Even the accelerated efforts to get refuge farmers to give better attention to control have been less than satisfactory. Efforts must continue to control Johnson grass.

Snow geese may be competing with Canada geese and ducks for refuge grain crops. If this problem increases, some decisions will have to be made on which species the Service considers a higher priority.

#### Wapanocca National Wildlife Refuge

Refuge has been meeting its established objectives of 1.2 million use days.

The corn grown on Wapanocca represents 95 percent of that grown in the entire county. There is, therefore, little agricultural food for geese (other than wheat green browse) off of the refuge.

The snow goose flock which winters at Wapanocca is increasing. In 1985, the all time peak population was 5,000. With as many as 25,000 Canada geese also using Wapanocca, the competition for available food may increase since the refuge is at capacity for the food it can produce.

Wintering geese and other waterfowl are provided corn, winter wheat, and moist soil impoundments for feeding. Corn is knocked down periodically during the winter to keep a continuous available supply for feeding geese. The last of the crop is not knocked down until chances for a late winter cold snap are past.

#### White River National Wildlife Refuge

The refuge has had a growing winter population of Canada geese that now averages about 9,000, and has peaked at over 10,000. Annual use days are averaging about 75 percent of the established objective of 500,000. The refuge has placed high priority on providing hot foods and suitable resting impoundments for geese.

The refuge has been successful in banding geese and reading goose collars.

### Cross Creeks National Wildlife Refuge

The refuge winters approximately 30,000 Canada geese and has averaged about 94 percent of its established objective of 2,000,000 use days. A flock of about 300 resident geese utilize the refuge and have caused some crop depredation problems. A well-established management program is sustained primarily through co-op farming, with corn and winter wheat as primary food resources.

The refuge is experiencing increasing problems with boundary line hunting and a resultant loss of banding sites due to baiting regulations.

### Reelfoot National Wildlife Refuge

Canada geese use the agricultural fields in the Kentucky portion of the refuge for feeding, and the northern portions of the lake (which are in Tennessee) for roosting.

Goose harvest in the Reelfoot zone has been minimal and could probably be increased substantially without adversely affecting the flock. Present patterns of goose use on the refuge do not provide good potential for developing a refuge hunting program that would not adversely affect needed refuge sanctuary.

The refuge farming program has been essentially unchanged for 10 years or more, and has been successful in meeting the needs of the wintering goose flock in most years.

The refuge has recently changed its policy of knocking down only 30 percent of the available corn before the goose/duck season. The new procedure of knocking down 70 percent before the season was adopted in response to a request from TWRA that had originated from local hunters.

The 70 percent corn knockdown procedure cannot be utilized at Lake Isom due to the proximity of boundary line goose pits and resultant "baiting" problem. Corn that is not knocked down till after the hunting season is usually not utilized and results in waste of the grain plus a subsequent problem of sprouting corn.

The refuge goose population has averaged 50 percent above the established objective level of 2,500,000 use days. Hopefully, some geese can be encouraged to move further South and occupy Chickasaw, Lower Hatchie, or other more southerly refuges.

### Tennessee National Wildlife Refuge

The refuge has experienced an upward surge in wintering goose populations following the recent development of an improved impoundment system. Recent wintering populations have been approximately 100,000. Use days have averaged 71 percent of the established objective of 5 million, but the most recent use (since development of new habitat management) has totaled between 5.5 and 6 million use days.

Goose management includes co-op farming, some force account farming and moist soil impoundment. Recent construction of new dikes and water control structures has greatly increased the acreage under moist soil management, and use by wintering waterfowl, including Canada geese, has sharply increased.

### Lower Hatchie and Chickasaw National Wildlife Refuges

Both refuges are still in the acquisition phase of being established. Both have suitable agricultural fields, water bodies and wetland areas with good potential for developing desirable goose habitat. Efforts should be initiated immediately to develop and properly manage this habitat for Canada geese as well as other waterfowl.

Both refuges are located in close proximity to the Mississippi River and, therefore, should have good potential for attracting and establishing a significant wintering goose flock. Hopefully, a portion of the Reelfoot flock can be encouraged to winter on these new refuges. Itinerant flocks of Canadas have been seen on both refuges.

### Yazoo National Wildlife Refuge

Yazoo refuge has reduced its cropland acreage from 6,000 to 4,500 over the past 3 years. Canada goose use days have averaged less than 18 percent of the established objective level of 1,000,000.

"Hot foods" and green browse being grown at Yazoo are considered to be more than what is needed for the 2,000+ geese that normally winter there.

No geese have occurred at Hillside since the winter of 1981-82. It should no longer be shown or considered as a goose wintering refuge.

Limited moist soil areas have been developed, but they are not fully operational yet.

Banding is almost impossible due to plentiful food supply and failure of bait to attract birds.

Hunting kill in the vicinity is very slight and is mostly incidental to duck hunting.

#### Lacassine National Wildlife Refuge

Almost all the Canada goose use is centered on agricultural fields within 30 miles of Lacassine NWR. Refuge use is heaviest during the open hunting season.

The refuge has not been actively managed for Canada geese. Current use days have averaged less than 5 percent of the established objective of 1,350,000 use days.

#### Wheeler National Wildlife Refuge

About 90-95 percent of the Canada geese that winter in Alabama are centered at Wheeler NWR.

Winter populations have recently averaged 33,000, and have peaked at 35,000. Objectives for Wheeler NWR are 40,000 birds and 4 million use days. Current use days are at 62 percent of the objective level.

The Wheeler birds make up the last major Canada goose concentration that winters South of the 36th parallel.

The Flyway objective is for a TVP flock of 150,000; current population at Wheeler averages 135,000 during the mid-December goose survey. A Flyway Management Plan is needed now to identify how this population will be managed in future years. The Atlantic segment of TVP geese is presently experiencing a significant population decline.

Corn produced on the Wheeler refuge has not been totally used in recent years. Hot foods on State lands are not used till after the season closes.

The refuge needs new banding sites and could use a large swim-in trap to increase banding efficiency.

Management of Canada geese in the Wheeler area presents a dilemma; effective management of the last, large, deep-South goose flock requires maintaining diverse, high quality food and habitat as well as a reliable, protective sanctuary. This kind of habitat is available at Wheeler refuge, but it works against hunting opportunity off the refuge. Less than 500 geese are killed in Alabama.

## STATE MANAGEMENT PROGRAMS

### Arkansas Game and Fish Commission

The G&FC has gone to considerable effort and expense to establish a viable resident goose flock. Management of resident geese is separated from management of migratory geese. Resident flock is still building and a hunting season is planned ultimately. Controlled harvest of resident geese will be the most difficult aspect of the Arkansas resident goose management program.

The largest numbers of migratory Canada geese are concentrated around national wildlife refuges in the State. Smaller concentrations are found at Peckerwood Lake and several other locations in eastern Arkansas.

Resident goose management is being confined to the Arkansas River Valley in northwest Arkansas, mostly around the Dardenelle Reservoir.

The G&FC would like to keep the goose hunting season closed for several more years. They would like to have the regulatory option to open goose hunting in the event unusually cold weather pushes abnormal populations south into Arkansas. They would also like to see the southern cohorts of the MVP and EPP build to higher numbers.

The G&FC believes that the Cache River refuge has important potential to provide needed goose wintering habitat in north central Arkansas.

Another goose refuge south of Wapanocca is needed to fill in the stepping-stone approach to increasing wintering flocks of Canada geese.

### Kentucky Department of Fish and Wildlife

Canada geese which utilize Ballard County refuge are believed to be 95 percent MVP. Average populations are around 2,000 before October 15, and post hunting populations have reached a high of 185,000. The 1985-86 peak was 75,000. Normally about 1/3 of the MVP will be centered at the refuge sometime during the wintering period.

The maximum harvest was 14,000 in 1977-78. DF&W would like to see average peak of 100,000 geese and a harvest of 15,000. The recently acquired Swan Lake refuge may be hunted in 1987. It will be managed for moist soils and some row crop production; it is completely flooded during high water periods.

Agricultural fields showed excellent control of Johnson grass. DF&W pays half the cost of fertilizer and chemicals, and divides the corn crops 50/50.

DF&W monitors the goose kill (for quota purposes) through a system of reporting by hunt guides and goose hunters. They estimate about 5 percent of guides do not report their harvest, but there has been no verification of this since 1971. Guides that do not report properly can lose their license.

DF&W views the Reelfoot Lake area as having high potential for increased hunting of geese, and they would like to see public hunting opportunities increase.

One farmer whose 150-acre property adjoins the Ballard County refuge reportedly made \$350,000 in 1 year from selling hunting privileges. Land adjoining the refuge, which would normally sell for \$300 per acre, has sold for as much as \$6,000 per acre. This illustrates the economic impact that goose hunting can have in an area where adequate habitat, food and sanctuary are provided.

The Ballard County refuge, with its interspersed of large, flat fields, old oxbow lakes, and bottomland hardwood timber, provides ideal habitat for attracting and holding large numbers of geese. The refuge provides a model for successful goose management.

The refuge has over 100 permanent, concrete-sided goose pits dispersed over refuge fields. Less than 1/3 of these pits are hunted on any particular day, and active blinds are rotated to increase hunter success.

The State has received complaints that guides will kill geese for hunters who do not effectively kill their own limits so that a new group of paid hunters can come to the blind.

#### Tennessee Wildlife Resources Agency

The State's largest goose flocks are in the western part of the State. Resident flocks of giant Canadas are also scattered throughout the State, mostly on certain TVA reservoirs.

The State's resident goose flock now numbers 10-12,000 of which 5,000 are on Old Hickory Reservoir. TWRA would like to hold further population growth as they are presently getting many depredation complaints. Liberalization of hunting for resident geese is contemplated.

The Reelfoot goose flock has averaged 50,000 and peaked at over 70,000 in recent years. TWRA would like to see this flock build so that more would be likely to go further South. The State's goose quota (MVP) this year is 7,000, of which 6,500 is in the northwest zone and 4,500 of that total is in the Reelfoot zone.

There is no Flyway plan for TVP goose management, and TWRA considers this an important need. Most of the TVP population winters in Tennessee.

#### Louisiana Wildlife and Fisheries Commission

Have had increasing numbers of small Canada geese (apparently Hutchinson's Tall Grass Prairie Population) in the southwest part of the State.

Latest surveys show 5,000-6,000 Canadas usually found with whitefronts and/or snow geese.

Geese arrive in early January and feed primarily on green browse in rice fields. Since they do not respond to bait, there has been no success in trapping birds for banding.

Though the season is not opened, some Canadas are killed incidentally during hunting for whitefronts.

It is believed that the illegal practice of killing geese by "creeping" has possibly put enough pressure on geese to cause some northward shift of populations.

#### Alabama Department of Conservation and Natural Resources

The State is considering starting a resident goose program.

Recent proliferation of milfoil on Wheeler Reservoir has "enlarged" the refuge by providing a large buffer zone that geese use but which is inaccessible to hunters. The State believes that geese are not leaving the refuge as they used to do; better habitat diversity on the refuge could be partly responsible. There was practically no goose use on State lands during the 1986-87 season.

#### Mississippi Department of Wildlife Conservation

Provides protection and limited food and habitat for about 5,000 geese that winter on the Sardis WMA. Limited hunting occurs in the vicinity.

Has a duck stamp, but limited revenues would require several year's accumulation to have enough funds for a significant land purchase.

Has begun a resident goose program by stocking 400 giant Canadas.

## PLAN FOR NEEDED MANAGEMENT ACTIONS

### 1. Recommendations for Holla Bend National Wildlife Refuge

- A. Increase acreage of moist soil management as possible to decrease dependence on row crops. (ASAP)
- B. Discontinue use of oxbow floodplain for farmer's share of crops so that this area can be devoted to moist soil management and/or used as refuge share of crops. (ASAP)
- C. Intensify control of Johnson grass. Consider providing chemicals to farmers or doing it force account. (1988 growing season)
- D. Experiment with keeping soil undisturbed to discourage Johnson grass propagation. Try burning for control. (FY 1988)
- E. Adopt an operational protocol for managing the captive goose project to assure that no disease problems develop. Preventive measures are needed for both penned birds and wild birds brought in from other areas. No expansion of the goose pen should be permitted. (October 31, 1987)
- F. Continue emphasis on collaring and collar observations. (Continuing)
- G. Prepare a plan for dealing with the potential problem of snow geese competing with Canada geese for refuge resources. (FY 1988)

### 2. Recommendations for Wapanocca National Wildlife Refuge

- A. Investigate potential for using refuge pumping capability for flooding moist soil areas and for increasing corn production through irrigation. (ASAP)
- B. Increase moist soil management areas as possible. (FY 1988)
- C. Continue emphasis on collaring and collar observations. (Continuing)

### 3. Recommendations for Reelfoot National Wildlife Refuge

- A. Explore with the State the possibility of establishing closed hunting zones around Lake Isom to solve the problem of boundary line hunting. (FY 1988)

- B. Look for areas that can be developed for moist soil management and develop them as funding permits. (Continuing)
- C. More emphasis must be placed on banding and collaring geese, and in making collar observations.

4. Recommendations for Yazoo NWR

- A. Develop functional, high quality moist soil management areas to provide additional habitat diversity. (ASAP)
- B. Continued high priority attention should be given to collar observations and banding. (Continuing)

5. Recommendations for Lacassine and Sabine National Wildlife Refuges

- A. Develop moist soil management capability at Lacassine by installation of flap gate structures to use gravity-fed water from Lacassine Pool. (ASAP)
- B. Acquire and develop quality habitat at "Lacassine West." (Now in process)
- C. Initiate research on habits of the Louisiana Canada goose cohorts to learn management actions that might favor them. (As funds and opportunity permit)
- D. FWS and LW&FC should work cooperatively to find ways to trap geese for collaring and banding. (Continuing)
- E. Emphasize management opportunities at Sabine NWR, particularly in the northwestern portion of the refuge where there has been traditional Canada goose use. Increase marsh burning on a regular basis. (Immediate and continuing)
- F. Acquire 6,000-acre "Gum Cove" area north of Sabine NWR, as opportunity (donation) might present itself.

6. Recommendations for Wheeler

- A. Wheeler refuge and the State WMA should coordinate food production to reduce the acres of hot foods produced and not used. (Begin immediately and continue)
- B. The District Biologist, Wheeler staff and State DOC representatives should meet annually to plan strategy for producing quality goose food and habitat in a way that does not preclude a prudent harvest of geese in the Wheeler area. (Begin immediately)

- C. The refuge should seek needed ARMM funding to build improved banding capability. (FY 1988)
- D. Continue to place high priority on collaring and collar observations. (Continuing)

7. Recommendations for Other Refuges

- A. Planning for impoundments on the Lower Hatchie refuge should begin as soon as possible, and their construction should begin as soon as needed funding is available or funding is diverted from other projects. (ASAP)
- B. Prepare goose habitat development proposals for Lower Hatchie and Chickasaw. (December 31, 1987)
- C. Neck collaring and collar observation must receive high priority at all concentration areas to help identify and adequately protect the southern cohorts in their southward migration. (Continuing--on all Region 4 stations)
- D. Prepare a proposal for acquiring more agricultural lands at White River to permit expanded goose food production. (December 31, 1987)
- E. Plant buffer strips of trees at problem locations at Cross Creeks to decrease disturbance from boundary line hunting. Explore other ways of protecting sanctuary values (such as Executive order closures). (FY 1988)
- F. Tennessee NWR and TWRA wildlife management areas should coordinate to reduce amount of goose foods produced and not used. (Begin immediately and continue on annual basis)
- G. Both Tensas River and Overflow NWR's should be included in future plans for goose management. (Aycock, Bowers, Chandler and Bridges--continuing)

STATE RECOMMENDATIONS TO FISH AND WILDLIFE SERVICE

1. Arkansas Recommendations to FWS

- A. Acquire habitat for active goose management at Cache River NWR. Waterfowl management at Cache should include moist soil management to attract both geese and ducks.
- B. Acquire land for increasing food production at White River.

- C. An additional goose refuge south of Wapanocca is needed to encourage geese to move further south.

2. Kentucky Recommendations to FWS

- A. Ensure that proposed changes in water management of Reelfoot Lake do not result in any diminished goose management capability on the refuge.

3. Tennessee Recommendations to FWS

- A. TWRA would like to see FWS move rapidly to develop Lower Hatchie and Chickasaw refuges in order to help disperse southward the large population concentration at Reelfoot.

4. Mississippi Recommendations to FWS

- A. FWS should continue to push for transfer of suitable FMHA foreclosure lands to provide additional Canada goose habitat in the northern part of the State and along the Mississippi River Valley.
- B. Would like to see MVP objective raised from 500,000 to 750,000 to increase spillover to the south.
- C. Would like to see FWS: (1) produce, protect, and maintain quality goose habitat that would be an enticement for more geese to migrate farther South; (2) acquire additional low value agricultural lands for refuge purposes; and (3) better enforce State kill quotas in northern States.

RECOMMENDATIONS FOR REFERRAL TO MISSISSIPPI FLYWAY

- 1. Develop a management plan for the TVP of Canada geese.
- 2. More emphasis should be given to collaring of resident goose flocks in the northern portions of MVP and TVP ranges, so that informed decisions can be made about hunting seasons that will best protect migrant southern flocks. Region 3 States should be asked to give added emphasis to reading goose collars to provide data for determining when resident goose seasons might have the least impact on migrant Canada geese. More emphasis is needed to obtain observations of early migrants, especially TVP geese.
- 3. Request assistance for neck-collaring "Texas" EPP and Tall Grass Prairie geese that winter in Louisiana since banding in Louisiana has been unsuccessful.

4. Develop methods for determining what proportion of winter population estimates are made up of Giant Canada geese. A coordinated effort to collar and observe giant geese may offer some potential.
5. Redefine baiting as it applies to hunting adjacent to refuges. Food grown on refuges to feed wintering waterfowl should not have to be kept unavailable (left standing) during hunting seasons, since the purpose is to feed waterfowl and not to attract birds for hunters. The refuge sanctuary will, of its own merits, attract waterfowl.

## Evaluation of Goose Management Objectives

### Scope of Evaluation:

The evaluation will consider only Canada geese in the Mississippi Flyway. Management practices and goals/objectives will be evaluated in the six States used by these geese (Alabama, Arkansas, Kentucky, Louisiana, Mississippi, and Tennessee), and on every national wildlife refuge used by them. Focus of the evaluation will be to determine needed management thrusts and action plans for Federal refuges.

### Objective of Evaluation:

Review and evaluate current management practices on national wildlife refuges in the Southeast Region in view of current objectives and determine needed changes. Prepare action plans showing specific accomplishments to be achieved by a certain period.

### Team Members:

John Oberheu, Refuge Supervisor, Atlanta, GA (Team Leader)  
Don Orr, Migratory Bird Field Coordinator, Memphis, TN  
Ray Aycock, Refuge Biologist, Jackson, MS  
Randy Cook, Asst. Refuge Manager, Decatur, AL (Wheeler NWR)  
Dan Searcy, ARD, Law Enforcement, Atlanta, GA  
Frank Bowers (Ex-officio), Regional Biologist, Atlanta, GA

### Plan:

1. Review the National Waterfowl Management Plan; the MVP, TVP, and EPP Management Plans; and the RRP Plan for Canada geese to compile current management objectives.
2. Conduct interviews with waterfowl management personnel from each State (individually) to gather data on current management practices, historic records of goose populations and distributions, and to discuss current problems and objectives.
3. Survey all NWRs in the Southeast Region that have significant goose use in the Mississippi Flyway to compile a list of current problems and perceived management needs.
4. Schedule a 1-week tour with Don Orr to meet with State officials (from respective States) at Wapanocca, Ballard County (KY) and Reelfoot, and Lower Hatchie/Chickasaw. (Week of December 8-12)
5. Schedule similar trip with Ray Aycock to visit Louisiana, Mississippi, and Alabama officials. (Week of February 9-13)

6. Schedule 3-day meeting of team, representatives from all six States and the Mississippi Flyway Representative, at a central location (probably at Wapanocca where there is a convenient meeting room). Develop recommendations for needed changes in refuge operations and identify any needed changes in management objectives. (March 10-12)
7. Assign sections of a team report to appropriate team members and allow 3 weeks for completion.
8. Finalize draft report and distribute to team members for editing.
9. Prepare final report and distribute to all States and refuges.

Results of Refuge Survey to Determine  
Current Problems and Perceived  
Management Needs

1. Contributions to National Objectives

- |                     |   |
|---------------------|---|
| <u>Holla Bend</u>   | <ul style="list-style-type: none"> <li>-Banding, collaring, and observations.</li> <li>-Provide important protection, food, and wintering habitat.</li> <li>-Population of 10,000; 600,000 use days (EPP and MVP).</li> </ul>   |
| <u>Wapanocca</u>    | <ul style="list-style-type: none"> <li>-Protection, food and habitat for 20,000 mixed MVP/EPP; peak of 30,000.</li> <li>-Banding, collaring, and observations.</li> </ul>   |
| <u>White River</u>  | <ul style="list-style-type: none"> <li>-Early arrivals of up to 5,000 are apparently EPP geese.</li> <li>-In severe winters, up to 20,000 MVP(?) geese may use refuge.</li> <li>-Refuge provides protected habitat for small but important population.</li> <li>-Banding, collaring, and observations.</li> </ul> |
| <u>Cross Creeks</u> | <ul style="list-style-type: none"> <li>-Wintering habitat includes 350 acres of hot food, 400 acres of green browse, and 600 acres of moist soils.</li> <li>-Banding, collaring, and observations.</li> <li>-Peak populations of up to 45,000 TVP geese are building.</li> </ul>                                  |
| <u>Tennessee</u>    | <ul style="list-style-type: none"> <li>-3,370 acres of moist soil, 3,800 acres hot foods, 380 acres green browse.</li> <li>-Wintering habitat and food for 80-100,000 Canada geese. (TVP)</li> <li>-Banding, collaring, and observations.</li> </ul>  |
| <u>Reelfoot</u>     | <ul style="list-style-type: none"> <li>-Winters average of 70,000 MVP (number has been steadily increasing).</li> <li>-Serves as primary "stepping stone" refuge to move geese southward from Illinois.</li> <li>-Banding, collaring, and observations.</li> </ul>  |
| <u>Hatchie</u>      | <ul style="list-style-type: none"> <li>-Hatchie - food and habitat for 1,000 TVP.</li> <li>-Lower Hatchie - 250 acres of potential goose food--peak of 3,000 TVP.</li> </ul>  |

Wheeler

- Winter between 25,000 and 40,000 TVP.
- Hot foods, green browse and moist soil areas.
- Protection.

Yazoo

- Provides quality habitat for wintering geese below the 36° parallel.
- Available habitat can sustain much more than current use.
- Habitat is available during severe winters--average of 2,000 MVP.

Noxubee

- 500 acres of moist soil management, 100 acres of green browse and 40 acres of corn for resident flock also provides habitat for migrant geese (resident flock of 300-400).

Lacassine

- Protection and habitat for geese wintering south of 36° parallel. Winter 5,000-6,000 EPP and Tall Grass Prairie birds.

## 2. Management Problems

<u>Holla Bend</u>	<ul style="list-style-type: none"><li>-Lack of funds to purchase equipment for seeding winter wheat.</li><li>-Lack of adequate personnel for monitoring and banding.</li></ul>
<u>Wapanocca</u>	<ul style="list-style-type: none"><li>-Competitive public use demands sometimes get congressional support and can threaten sound management.</li></ul>
<u>White River</u>	<ul style="list-style-type: none"><li>-Insufficient habitat for good goose management - droughty soils.</li></ul>
<u>Cross Creeks</u>	<ul style="list-style-type: none"><li>-Disturbance from passing barge traffic, boundary line hunting and dogs (compounded by long narrow configuration of refuge).</li><li>-Limitations on corn knockdown due to boundary line hunting.</li><li>-Limitation of suitable trapping sites due to "baiting" in vicinity of off-refuge hunts.</li><li>-Crop depredations from resident Canada geese.</li></ul>
<u>Tennessee</u>	<ul style="list-style-type: none"><li>-Problem of best dispersal of geese - tend to over concentrate.</li><li>-Restriction of 40 percent corn knockdown limits flexibility of management to get better distribution of geese.</li></ul>
<u>Reelfoot</u>	<ul style="list-style-type: none"><li>-Corn knockdown limitation at Lake Isom prevents refuge from making hot foods available to geese.</li></ul>
<u>Hatchie</u>	<ul style="list-style-type: none"><li>-Hatchie - is on periphery of flyway and has limited goose potential.</li><li>-Disturbance of waterfowl caused by hunting on and access to refuge inholdings (L. Hatchie).</li><li>-Difficulty in getting good co-op farmers.</li></ul>
<u>Wheeler</u>	<ul style="list-style-type: none"><li>-Encroachment of urban areas.</li><li>-Increasing difficulty to keep good co-op farmers.</li></ul>
<u>Yazoo</u>	<ul style="list-style-type: none"><li>-Hunts for resident species can cause disturbance to waterfowl.</li><li>-With increased wintering populations, hunts would have to be closed after waterfowl arrive.</li></ul>
<u>Noxubee</u>	<ul style="list-style-type: none"><li>-It is becoming increasingly difficult to keep co-op farmers.</li></ul>
<u>Lacassine</u>	<ul style="list-style-type: none"><li>-None.</li></ul>

### 3. Potential Management Contributions With Added Funding

<u>Holla Bend</u>	<ul style="list-style-type: none"><li>-Could make better use of available food with new mower (\$9,000). (Has been funded)</li><li>-Could plant additional green browse.</li></ul>
<u>Wapanocca</u>	<ul style="list-style-type: none"><li>-(Minimal) added funding could improve banding success.</li></ul>
<u>White River</u>	<ul style="list-style-type: none"><li>-Could provide better habitat and more reliable food with more suitable land.</li><li>-Irrigation system could improve food production on present land (\$15,000).</li><li>-Force account farming could increase food production on present land (\$12,000 annually).</li></ul>
<u>Cross Creeks</u>	<ul style="list-style-type: none"><li>-Could increase food production by force account or by contract.</li><li>-Could create new and improved water management facilities.</li><li>-Could add moist soil management acreage.</li><li>-Need refuge-owned pumps for flooding and dewatering. (Funded)</li></ul>
<u>Tennessee</u>	<ul style="list-style-type: none"><li>-Food and habitat is already adequate.</li><li>-More efficient waterfowl capture for banding with swim-in trap.</li></ul>
<u>Reelfoot</u>	<ul style="list-style-type: none"><li>-Could increase banding and collar observations.</li></ul>
<u>Hatchie</u>	<ul style="list-style-type: none"><li>-L. Hatchie - complete development of Sullivan tract--impoundments and water storage.</li><li>-Modify current access road to decrease disturbance from inholdings.</li><li>-Chickasaw - acquire agricultural lands and develop water management capability.</li><li>-All - provide more and better food.</li></ul>
<u>Wheeler</u>	<ul style="list-style-type: none"><li>-Could improve management of habitat and increase food production.</li></ul>
<u>Yazoo</u>	<ul style="list-style-type: none"><li>-Potential goose habitat at Panther Swamp cannot be developed without acquisition of agricultural lands known as Big Twist.</li></ul>
<u>Noxubee</u>	<ul style="list-style-type: none"><li>-More food could be produced but may not result in more geese.</li></ul>
<u>Lacassine</u>	<ul style="list-style-type: none"><li>-Improved foods to attract and hold small remnant flock of Canadas--supposedly overflow from Texas.</li></ul>

#### 4. Needed Management Initiatives at Flyway Level

<u>Holla Bend</u>	-No suggestions.
<u>Wapanocca</u>	-Possible use of the Farm Bill to reduce "hot food" productions in northern portions of the Flyway.
<u>White River</u>	-Use Conservation Reserve Program to increase wintering goose habitat.
<u>Cross Creeks</u>	-Redefine baiting as it applies to hunting adjacent to refuges. -Control of hunting in immediate vicinity of refuges would reduce harvest as needed.
<u>Tennessee</u>	-Better predator control on nesting grounds. -Expansion of moist soil areas on wintering grounds.
<u>Reelfoot</u>	-Steps must be taken to reduce kill and enforce quota limits.
<u>Hatchie</u>	-Keep project leaders better informed on Flyway issues. -Upward revision of MVP goose objectives. -Adopt plan for "stepping" Reelfoot goose population further southward.
<u>Wheeler</u>	-No suggestions.
<u>Yazoo</u>	-Begin use of collaring data to reduce hunting mortality of geese that traditionally winter south of the 36° parallel.
<u>Noxubee</u>	-Goose hunting should be closed in Mississippi. -Acquire more good goose habitat in north Mississippi.
<u>Lacassine</u>	-None.

UNITED STATES GOVERNMENT  
memorandum

DATE: October 21, 1987

REPLY TO  
ATTN OF: Refuge Manager, Tennessee NWR

SUBJECT: Canada Goose Management Review  
(Mr. Morgan's Memorandum Dated October 15, 1987)

TO: Regional Director, FWS, Atlanta, GA (ARW/RF-1)

We have given subject memorandum a quick scan and believe that there are two points (one vital) that need correcting.

Attachment No. 2 - Results of Refuge Survey to Determine Current Problems and Perceived Management Needs.

Tennessee Refuge is shown to provide 3,800 acres of hot foods. This is a grave error. This acreage was fairly accurate in pre-moist soil management years. Since inception of the moist soil program, our total crop acreage is 2,875 with only 580 to 600 acres of hot food as the refuge share. This current 1987-88 season, the refuge share is 588 acres of hot food.

Item F, Page 13 - Plan for Needed Management Action

Tennessee Refuge is recommended to reduce amount of goose food produced and not used. We have taken this into action with each succeeding year since implementation of moist soil program in 1982. We feel that we are pretty much in line with the approximately 600 acres of hot food being produced, which is a dramatic decrease in the total hot food acreages produced in the recent past.

We are not sending copies of this memo to the list of stations that received Mr. Morgan's October 15, 1987, memo, other than to Wildlife Management Biologist Don Orr, and will leave this to the discretion of the Regional Office. We do, however, feel that it should be information provided to everyone concerned in this management program to, at least, show the beneficial effects of the diversity in providing natural management. The bottom line being that we are providing better habitat not only for waterfowl, but other wildlife as well. The real bottom line is that our waterfowl have responded dramatically, with some species as much as three to four hundred percent.



cc: Don Orr